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Attorney Docket No. 1144D

**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

*Certificate*  
**JUN 30 2004**  
*of Correction*

Patent Number : 6,734,341 B2  
Issued : May 11, 2004  
Name of Patentee : Pioneer Hi-Bred International, Inc.  
Title of Invention : Starch Synthase Polynucleotides and Their Use in the  
Production of New Starches

Attn: Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT  
FOR PTO MISTAKE (37 CFR 1.322(a))**

1. Attached, in duplicate, is Form PTO/SB/44, with at least one copy being suitable for printing.
2. The exact page and line number where the errors are shown correctly in the application file are:

Page 1, Line 17:

Serial No. 09/388,743 filed September 2, 1999, the disclosure of which is incorporated herein by reference. A copy of the first page of the specification is enclosed for the convenience of the Office.

Information Disclosure Statement by Applicant, Sheet 1, Cite No. A3 and Sheet 2, Cite No. A7, A8 and A9 filed 10/02/2003. A copy of the IDS is enclosed for the convenience of the Office.

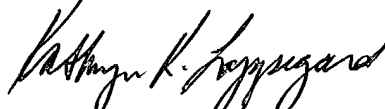
1 JUL 2004

Patent No. 6,734,341 B2  
Attorney Docket No. 1144D

3. Please send the Certificate to:

Name Kathryn K. Lappegard  
Address: Pioneer Hi-Bred International, Inc.  
Corporate Intellectual Property  
7100 N.W. 62<sup>nd</sup> Avenue  
P.O. Box 1000  
Johnston, Iowa 50131-1000

Respectfully submitted,



Kathryn K. Lappegard  
Agent for Applicant(s)  
Registration No. 46,857

PIONEER HI-BRED INTERNATIONAL, INC.  
Corporate Intellectual Property  
7100 N.W. 62<sup>nd</sup> Avenue  
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Johnston, Iowa 50131-1000  
Phone: (515) 253-5707  
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# NOVEL STARCH SYNTHASE POLYNUCLEOTIDES AND THEIR USE IN THE PRODUCTION OF NEW STARCHES

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George W. Singletary

Lan Zhou

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## TECHNICAL FIELD

The present invention relates generally to plant molecular biology. More specifically, it relates to nucleic acids and methods for modulating their expression in plants.

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## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority under 35 USC 120 to U.S. Patent Application Serial No. 09/388,743 filed September 2, 1999, the disclosure of which is incorporated herein by reference.

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## BACKGROUND OF THE INVENTION

Starches are polymers of glucose molecules produced and stored only in the chloroplasts and amyloplasts of plants. Most of the starch produced in the world is used as food, but about one-third of the total production is employed for a variety of industrial purposes that take advantage of starch's unique properties. These properties (e.g. viscosity, gelatinization temperature) vary greatly with the plant source and affect the usefulness of the starch for food and nonfood products. (Sivak and Preiss, *Advances in Food and Nutrition Research*, Vol. 41. Academic Press, 1998, p. 163.) The properties of a starch are determined by the structure of its constituent granules and the polymers from which the granules are formed. Molecular structure is, in turn, dependent largely upon the presence and activity of specific isozymes of starch synthase. Genes encoding the starch synthase enzymes are therefore of interest.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. .



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Substitute for form 1449B/PTO

*(Use as many sheets as necessary)*

Sheet	2	of	2
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**Complete if Known**

<i>Application Number</i>	10/044,543
<i>Filing Date</i>	01/11/2002
<i>First Named Inventor</i>	George W. Singletary
<i>Art Unit</i>	1638
<i>Examiner Name</i>	Fox, David T.
<i>Attorney Docket Number</i>	1144D

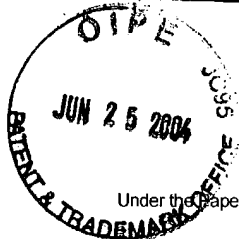
## NON PATENT LITERATURE DOCUMENTS

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 6,734,341 B2

DATED : May 11, 2004

INVENTOR(S) : George W. Singletary, Lan Zhou

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Title Page, Item (62), Related U.S. Application Data, should read as follows:

-- Division of application No. 09/388,743, filed on Sep. 2, 1999, now Pat. No. 6,423,886. --

Title Page, Item (56), References Cited, Foreign Patent Documents, should read as follows:

-- WO WO 97/26362 7/1997 --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Nakatani et al. reference should read as follows:

-- Relationship between Starch Content and Activity of Starch Synthase and ADP-glucose Phrophosphorylase in Tuberous Root of Sweet Potato, Jpn. J. Crop Sci., 1992, 61(3)463-468. --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Salehuzzaman et al. reference should read as follows:

-- Isolation and characterization of a cDNA encoding granule-bound starch synthase in cassava (Manihot esculenta Crantz) and its antisense expression in potato, Plant Mol. Biol, 1993, 23:947-962. --

Title Page, Item (56), References Cited, OTHER PUBLICATIONS, Dry et al. reference should read as follows:

-- Characterization of cDNAs encoding two isoforms of granule-bound starch synthase which show differential expression in developing storage organs of pea and potato, The Plant Journal, 1992, 2(2):193-202. --

MAILING ADDRESS OF SENDER: Pioneer Hi-Bred International, Inc.  
7100 N.W. 62<sup>nd</sup> Avenue  
P.O. Box 1000  
Johnston, IA 50131-1000

PATENT NO. 6,734,341 B2

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➡ Page 1 of 1

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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1 JUL 2004



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Kathryn K. Lappegard

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- 1) Request for Certificate of Correction of Patent /2 Pages (1 copy)
- 2) Copy of First Page of Specification /1 Page (1 copy)
- 3) Copy of IDS (1449) Filed 10/02/2003 /2 Pages (1 copy)
- 4) Certificate of Correction /1 Page (2 copies)

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- 1 JUL 2004